

On page 23, last paragraph continuing to top of page 24, in the first line of the paragraph, please change - - LX 2020 - - to “XL 2020” as shown below:

A cup-horn ultrasonic liquid processor (~~EXL~~ 2020, Misonix, Farmingdale, NY) was used as US source. The rated maximum ultrasonic power was 550 W at 20 kHz output frequencies. A model 7825 medium pressure, quartz, mercury-vapor immersion lamp (100 watts) with a power supply (7825-30 power supply, ACE Glass inc., Vineland, NJ) was employed as a UV source. The total radiated energy was 11.49 watts. Approximate 40% is located in the ultraviolet region of the spectrum, 41% is in visible region, and the remaining belongs to infrared region. Irradiance was measured by a UVX digital radiometer (UVP Inc., San Gabriel, CA).

On page 25, first paragraph, equation (1)', please replace the equation to include the math signs (two equal signs and two minus signs) as shown below. The inserted math signs are not underlined, as this would be confusing.

The effect of the partition material on the photolysis of PCE and TCE in the UVUS reactor, was examined. The reactor efficiencies ( $E_3 = E_{uvus}$ ) for the removal of VOC in the UVUS runs are computed using Eqns. (1)' and (2)'.

$$E_3 = \frac{C_{in} - C_{ss3}}{C_{in}} = 1 - \frac{C_{ss3}}{C_{in}} \quad \dots (1)'$$

$$E_3 = \left[ 1 - \frac{1}{(1 + k_1 t_{d1})(1 + k_2 t_{d2})(1 + k_3 t_{d3})} \right] \quad \dots (2)'$$

where  $E_3 = E_{uvus}$  = the removal efficiencies based on the effluent of the third compartment of the reactor at steady state;  $t_{d1}$ ,  $t_{d2}$ , and  $t_{d3}$  = the mean retention time (min) for the first, second, and third compartment, respectively;  $k_1$ ,  $k_2$ , and  $k_3$  = the degradation rate constants ( $\text{min}^{-1}$ ) in the first, second, and third compartment, respectively (=  $k_{us}$ ,  $k_{pc}$ , and  $k_{us}$ , respectively). The effect of the partition compartment on the overall efficiency was assumed to be insignificant due to its small retention time ( $t_{d2} = 50$  sec).

On page 25, second paragraph, equation (3)', please replace the equation to include the math signs (one equal sign, one plus sign, and one minus sign) as shown below. The inserted math signs are not underlined, as this would be confusing.

The theoretical additive removal efficiencies ( $E_{ad}$ ) were calculated using Eqn. (3)'.

$$E_{ad} = E_{us} + (1 - E_{us})E_{uv} \quad \dots\dots (3)'$$

where  $E_{ad}$  = the additive removal efficiency;  $E_{uv}$  = the removal efficiency with UV irradiation; and  $E_{us}$  = the removal efficiency with US irradiation. If  $E_{uvus} = E_{ad}$ , the combined effect is additive; if  $E_{uvus} > E_{ad}$ , the combined effect is synergistic; if  $E_{uvus} < E_{ad}$ , the combined effect is antagonistic.  $E_{uvus}$  = the removal efficiency with UVUS irradiation.